ERIC Document Resume	See Instruction Sheet	DATE OF RESUME	DATE RECEIVED

A. PUBLICATION DATA

1. ERIC NUMBER	2. ORIGINATOR CONTROL NO(S).	3. IDENTIFICATION NO.
ED002447	N.A.	603

DO NOT WRITE IN SPACE BELOW

4. AUTHOR(S): Central Office of the Lennox School District

5. TITLE OF DOCUMENT ABSTRACTED: TV Instruction Begins

6. PUBLICATION TITLE: N.A.

7. EDITOR(S): N.A.

9. PUBLISHER OR SOURCE: Lennox School District, 801 South Lorena Street, Los Angeles 23, California

8. PLACE OF ORIGIN: ORG. Lennox School District, 801 South; ST. Lorena Street; CITY, STATE Los Angeles, Calif.; TELE. EXT.; INST/LOC CODE

10. VOL.	11. PAGES	12. MO./YR.	13. TOTAL PP.
V #1	1-6	1/61	6

MICROFILM COPY AVAILABLE: YES ☒ NO ☐

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TYPE OF REPORT: PROPOSAL ☐ IN-PROGRESS ☐ FINAL ☒ FOLLOW-UP ☐

OTHER ERIC REFERENCES:

ERIC SATELLITE CODE

B. INDEXING DATA

14. SUBJECT AREA

15. TYPE OF ENDEAVOR: Report

16. INDEXING TERMS (8-12)

elementary education	science	experimental studies	
educational television	curriculum	audiovisual aids	
teaching methods	laboratory	teacher education	
	teaching aids	inservice programs	

17. ABSTRACT (MAX. 250 WORDS)

An experimental course in laboratory science by means of closed-circuit television was described. It involved all sixth grades of the Lennox School District. The purpose of the program was to determine whether sixth grade pupils could learn a course in laboratory science as well by television as by the actual performance of the experiments. Of the 150 pupils in the experimental group, 75 were matched with 75 students in the control group which was taught conventionally. Achievement tests were to be given to both groups at the end of the experiment.

All pupils followed the same course of instruction. The television pupils read and discussed with their teachers the background of the experiment to be viewed, viewed the performance, and completed written work on the lesson. The teacher helped when necessary. The procedure was the same for the laboratory pupils except that they performed the experiments themselves.

The experiment was not completed when the article was written, and results were not given. Possibilities for using the closed-circuit system in the district included showing motion picture films on the television sets in the classrooms, presenting resource people and programs which could only be presented in a single class, and conducting teachers meetings and inservice training programs.

ERIC No.

18. SOURCE OF ABSTRACT

C. FUNDING DATA

19. SUPPORTING ORGANIZATION	20. DIVISION OR DEPT.	21. CONTRACT NO. / PROJECT NO.
	22. TOTAL COST OF PROJECT	
	23. DURATION OF PROJECT	U.S. Department of Health, Education, and Welfare Office of Education

ERIC Form 1

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INSTRUCTIONAL TECHNOLOGY - U.S.C.
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603
10314 Fernwood Inglewood OR 5-4121

Lennox District Letter

From the Central Office of the Lennox School District

VOL. NO.5 ISSUE NO.1 For Parents and Teachers JANUARY, 1961

TV INSTRUCTION BEGINS

Instruction of Lennox School District sixth-graders in an experimental course in laboratory science by means of closed-circuit television will begin on January 30 with the start of the second semester of the school year. Installation of the District's central studio at Jefferson school and the connection of the other four schools by co-axial cable have been completed in anticipation of the pioneer program of televised learning.

The experimental program will involve all the sixth grades of the District, a total of approximately 220 pupils. Only 150 pupils at Larch, Felton, Buford, and Whelan schools will receive televised instruction, however. Two sixth grade classes at Jefferson school will receive laboratory science instruction in a laboratory at the school.

The purpose of the experimental science program is to determine whether or not sixth grade pupils can learn a course in laboratory science as well by television as they can learn such a course by the actual performance of the experiments. The two classes at Jefferson school will serve as a control group for the experiment. These classes will receive instruction in a laboratory using laboratory tables and equipment. The remaining sixth grades in the four other schools will not use laboratory equipment but will view experiments performed by the television teacher in the central studio at Jefferson. These experiments will be received on 24 inch sets installed in classrooms at Larch, Felton, Whelan and Buford.

Of the 150 pupils who will receive instruction in laboratory science by television, some 75 have been matched as nearly as possible with the Jefferson pupils who will perform the experiments in the laboratory. At the end of the school year, a series of tests will be given to the two groups and the learnings will be compared.

(Continued on Page 2)

PARENTS, FRIENDS INVITED TO TELECAST; SUPERVISOR HAHN, BOARD MEMBERS FEATURED, DEMONSTRATION LESSON FOR PUPILS SHOWN

Parents and friends of the Lennox District are invited to attend the various sixth grade rooms on Monday, January 30, at 1:10 to view a special telecast inaugurating the experimental program of closed-circuit television instruction in the Lennox schools, the first such undertaking in Los Angeles County.

Featured on the telecast will be Supervisor Kenneth Hahn whose efforts did much to make the system possible. Lennox District trustees will also say a few words to pupils. Following this presentation, Wendell Sorenson, television teacher, will explain the course to be offered to pupils and will conduct a demonstration experiment.

Visitors may view the telecast in sixth grade rooms at Larch, Whelan, Buford, and Felton schools. If large number of visitors attend, it may not be possible to provide seating space. There will be space for a limited number of visitors at the central studio at Jefferson school.

"Parents of sixth grade pupils are extended a special invitation since their children will participate in the initial television instruction," Dr. G. E. Dart, superintendent, said. "Visitors will be welcome at other times in the course of the instructional program during this second semester."

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U. S. DEPARTMENT OF HEALTH, EDUCATION AND WELFARE
Office of Education

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EXPERIMENTAL PROGRAM OF LABORATORY SCIENCE INSTRUCTION BEGINS IN LENNOX SCHOOL DISTRICT

(Continued from Page 1)

All pupils will follow the same course of instruction. This course will be comprised of some 80 laboratory experiments covering elementary physics, chemistry, biology, and physiology. The course is designed especially for elementary pupils and is not a duplication of material ordinarily included in high school subjects.

Each pupil receiving instruction will be provided with a laboratory manual. Each lesson will consist of three parts. The first will be reading and discussion of the background information for the experiment to be performed. The second will be the performance or viewing of the experiment, and the third will be the written answering of questions concerning the experiment. These three parts will be covered by three lesson sheets which are designed to accompany each experiment. The first sheet contains the background information. The second sheet contains the experiment itself divided into five parts: (1) purpose of the experiment, (2) apparatus to be used, (3) procedure, (4) results, and (5) conclusions. Parts (1), (2), and (3) are completed. Pupils will be required to complete parts (4) and (5) and define certain vocabulary words on this second sheet. The third sheet contains thought questions designed to test the pupil's ability to use the idea taught in the experiment.

Those pupils receiving their experiments by television will first read and discuss with their regular teachers the background of the experiment to be viewed. The regular teacher will then turn on the television set and the class will view the performance of the experiment by the television teacher from the central studio. After viewing the performance, the pupils will then be required to complete the written work, employing the help of their regular teacher if necessary.

(Continued on Page 3)

MONTHS OF PREPARATION, EFFORTS OF MANY PEOPLE HAVE GONE INTO CLOSED-CIRCUIT TELEVISION SYSTEM IN LENNOX SCHOOL.

Almost two years of preparation and the efforts of District, governmental, and business officials have gone into the provision of the system of closed-circuit television in the Lennox School District

The idea of the system was considered by the Lennox Board of Trustees almost two years ago when it became evident from research that pupils could learn by the medium as well or better than they could learn by conventional teaching. The Lennox Board explored the possibilities of television because it believed that the District might be in a unique position to use the medium. The District had a vacant room where a studio might be installed and its schools were located closer together than those in any other school district in California.

In 1959, the Board authorized the superintendent, Dr. G. E. Dart, to proceed with efforts to install a closed-circuit system.

After exploring many possible installation methods, the Lennox Board decided to request a communications franchise from the Los Angeles County Board of Supervisors. Largely through the efforts of Supervisor Kenneth Hahn such a franchise was granted. It is believed that this is the only communications franchise ever granted a school district by a governmental body in the United States.

Negotiations were then begun with the Southern California Edison Company for the use of Company poles already installe along the County rights-of-way which the District is entitled to use under terms of its franchise. Through the cooperation of Mr. Lew Jenkins, local district manager of the Edison company, a lease agreement was concluded which allowed the District to use Edison company poles at a nominal fee of one dollar per year per pole.

TELEVISION INSTRUCTION TO BE OFFERED SIXTH GRADE PUPILS; LABCRATCRY SCIENCE TAUGHT

(Continued from Page 2)

Procedure will be the same for those pupils working in the laboratory except that instead of seeing the experiment on television, these pupils will themselves use the apparatus and perform the experiment, under the direction of their regular teachers.

The time allowed to each lesson will vary with the difficulty of the experiment involved. However, it is anticipated that the ordinary lesson will take from 30 to 40 minutes with perhaps 20 minutes being devoted to telecasting for those pupils who will receive their instruction in this manner.

Television teacher for the experimental science program will be Wendell Sorenson. Mr. Sorenson has been a teacher in the Lennox district for the past four years. He received his training at the University of California at Los Angeles, Long Beach State College, Los Angeles City College, and the University of Southern California. He is presently completing his administrative credential and master's degree at USC. Mr. Sorenson has been instrumental in developing the seventh and eighth grade science program at Larch school and has special training in the methods of laboratory instruction.

Testing and evaluation of the program will be under the direction of Mrs. Berta Hays, District coordinator of guidance and health. Statistical work will be done by student psychologist from Pepperdine college with the assistance of Dr. G. E. Dart, superintendent.

The Lennox District is considering the possibility of extending televised instruction to seventh and eighth grade classes next year if such instruction proves effective in the experimental program. The program under consideration involves revision of the present afternoon classes for upper grades to provide televised science instruction for all pupils in these grades.

(Continued on Page 4)

CONCEPT OF EDUCATIONAL TELEVISION IN LENNOX IS TO STRENGTHEN SCIENCE INSTRUCTION RATHER THAN TO SURPLANT REGULAR CLASSROOM TEACHING

Televised instruction is being offered in the Lennox School District as an initial effort to improve the program of elementary science rather than to attempt by television anything that is now being taught in the regular classroom.

"The experimental program in teaching laboratory science by television is an attempt to add to instruction that is already being given," Superintendent G. E. Dart said. "The Lennox District views the addition of laboratory science to the present program of teaching in this field as a step in strengthening the science program. It is not an attempt to teach anything that we are already teaching by regular methods."

Dr. Dart pointed out that some programs using television in the elementary schools are aimed at teaching the regular subject matter of the school using special teachers for this purpose. Other programs use studio teachers and regular subject matter to enable other teachers to handle larger classes.

"We view educational television as a tool that is suited uniquely to put into the elementary program something that otherwise could not be offered," Dart said. "It would be impossible to offer laboratory science in the elementary school without television unless we provided a laboratory and equipment at each school. We do not have the rooms and the equipment would be very expensive."

Other uses of the closed-system television are being considered in the light of the use of the medium's enrichment value. Special lessons, the use of resource persons, central film distribution, and the employment of the system in other ways are all designed to add to instruction that which can best be done by televison.

"We do not consider television as surplanting the teacher in any,"the superintendent said.

DISTRICT CONSIDERING MANY USES FOR TELEVISION SYSTEM OTHER THAN EXPERIMENTAL TEACHING (Continued from Page 3)

In addition to using the closed-circuit system for science instruction this second semester, the Lennox District plans to experiment with other possibilities. The studio is presently equipped with a television film projector which will enable classes to receive motion picture films on the television sets in the classrooms. This projector is one expecially designed for the scanning rate of television cameras. Regular sixth grade films, presently procured from the Los Angeles County audio-visual library, and used in the classrooms may be shown in the central studio and sent to the classrooms via the co-axial connections.

The closed-circuit system may also be used to present resource persons and programs which could not be presented except in a single class. By using the television system, it will be possible for the District to arrange for all sixth grades to receive specialized instruction in phases of their regular study program.

The District will also experiment with the system for teachers' meetings. In-service training programs can be presented in the central studio and may be viewed by teachers without their leaving the individual schools. Resource personnel from the office of the Los Angeles County Superintendent of Schools may be used in such a program.

The Lennox closed-circuit system is so designed that programs may be sent simultaneously to the four schools on different channels. It is possible, for instance, to present a regular lesson and show a film at the same time. Pupils in the classrooms may receive the lesson or the film merely by selecting the proper channel. In addition the system is designed so that receivers may be used to pick up regular telecasts by switching from the closed-circuit to open-air broadcasting.

(Continued on Page 5)

COST OF CLOSED-CIRCUIT SYSTEM MODEST, WILL BE PAID FROM BOND FUNDS OF DISTRICT

Total cost of the system of closed-circuit television to the Lennox School District was approximately $10,000 which will be paid from bond funds and will not come out of the operating budget of the District.

This cost included the provision of three cameras, operating console with three monitors, distribution equipment, television motion picture projector, sound turn-table, lighting, approximately 2.5 miles of co-axial cable, together with miscellaneous equipment for the central studio. It did not include classroom receivers or science equipment. The District has received federal funds for one-half the cost of this equipment.

Despite the modest cost, the system in Lennox is of high quality. Packard-Bell has guaranteed trouble-free operation for one year.

PACKARD-BELL ELECTRONICS GUIDING LIGHT IN LENNOX CLOSED-CIRCUIT TELEVISION

Successful bidder on all equipment for the Lennox central television studio, Packard-Bell Electronics Inc. has furnished guidance and assistance to the Lennox District in the development of its system of closed-circuit educational television.

Officials of the company including principally Mr. Carl Duffy, head of the educational sales division, and Mr. William Cox, engineer, have worked closely with Superintendent G. E. Dart in planning and installing the television system. Equipment in the central studio has been built around the use of Packard-Bell transistor cameras and the unique console control and distribution unit which allow operation by use of a push-button camera switching device.

Company officials also assisted the District in negotiations with the Los Angeles County Board of Supervisors and with the Southern California Edison Company.

DISTRICT CONSIDERING MANY USES FOR TELEVISION SYSTEM OTHER THAN EXPERIMENTAL TEACHING (Continued from Page 4)

The Los Angeles County Schools office and the Los Angeles City schools presently are offering a series of various television lessons over Station KCOP. Although the Lennox District has no plans for the systematic use of these educational telecasts this year, it will experiment with reception to determine whether such use may be desireable in the future.

Initial reception in the Buford, Larch, Felton, and Whelan schools is confined to one receiver located in the sixth grade room in each school. However, the co-axial connections to the schools are so designed that additional receivers may be added in other rooms when and if desired. Connections may also be made so that receivers may be moved from one room to another.

STATE DEPARTMENT ADVOCATES USE OF TELEVISION IN ALL CALIFORNIA SCHOOLS; URGES SPECIAL FINANCIAL SUPPORT

"Instructional television is a legitimate educational medium - as are books and other audio-visual materials - and, as such, merits State-wide recognition and financial support."

Such was the principal conclusion of a special study of educational television conducted by the California State Department of Education and published by the Department in April, 1960. The study was under the direction of William H. Allen, an educator on leave from Systems Development Corporation, and was a joint undertaking by the State Department and the Fund For the Advancement of Education (Ford Foundation).

In this far-reaching study entitled Television for California Schools, it was recommended that the State Department support educational television in California schools and that the legislature provide special funds to those school districts which undertake to use the medium.

VIDEO TAPE MAY OFFER WHOLE NEW RANGE OF INSTRUCTION IN PRESENTING LESSONS

Video tape will soon provide school classrooms with a whole range of lessons and presentations which would not be possible by any other means.

Already perfected, this magic tape is being used commercially in the pre-recording of programs and in preserving programs for presentation at various times. Its use makes possible the indefinite preservation of television material on inexpensive tape.

Any school system presenting educational lessons could pre-tape lessons or preserve on tape lessons which it wished to repeat. The present drawback to such taping is the cost of the recording equipment. Present equipment is so expensive that only large stations can afford it. However, Radio Corporation of America has announced that it can produce a video tape recorder for approximately $5,000 if there is a demand. As small television installations increase, such a demand is estimated to be only a few years away.

Some lessons and educational telecasts are already available on tape and publishing companies envision a whole educational field in this area.

If you have a question or suggestion for future District Letters, please cut out this blank and send it to school with your child. The teacher will see that the superintendent gets it.

I would like to know more about_____

_____

_____

Comments or suggestions:_____

_____

_____

- G. E. Dart, Superintendent

NEW CLOSED CIRCUIT TELEVISION INSTALLATION

Superintendent Gerald Dart of the Lennox School District has announced the completion of a closed circuit television installation, tying together five elementary schools in his school district.

For interested AVEAC members, Superintendent Dart has extended an invitation to visit the Lennox School District on Thursday morning, February 2.

This visit is particularly important because:

1. It is apparently a very efficient, but low cost installation.
2. The entire system including studio equipment and connecting cable system, is completely owned by the school district.
3. It has been so designed as to permit expansion of the facility without obsoleting any of the existing equipment.
4. The rental fees for the power company poles amount to only $60 per year.

There is no charge for the coaxial cable to the telephone company because the Lennox Board of Education asked for and received a communications franchise from the Los Angeles County Board of Supervisors. It is believed that this is the only communications franchise ever granted a school district by a governmental body in the United States.

Transportation will be provided from the LaFayette Hotel. The bus will leave at 9:30 a.m. from the main entrance and will return by noon.

For those who are interested, will you please fill in and return the reservation blank below immediately.

I wish to take the Lennox Television Tour on February 2, 9:30 a.m. to 12:00 noon.

Name_____ Address_____

MAIL THIS BLANK TO:

Dr. Robert C. Gerletti
Conference Chairman
Los Angeles County Schools
801 South Lorena Street
Los Angeles 23, California